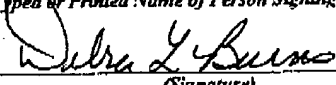


APR 03 2007

<b>CERTIFICATE OF TRANSMISSION BY FACSIMILE (37 CFR 1.8)</b> Applicant(s): Dongliang LIN et al.			Docket No. 133697-0026
Application No. 10/580,664	Filing Date 05/26/2006	Examiner Unknown	Group Art Unit 1742
Invention: HIGH-SILICON STEEL AND METHOD OF MAKING THE SAME			
<p>I hereby certify that this <u>Certificate of Transmission (1 pg), Request for Corrected Filing Receipt (2 pgs) &amp; cc of Filing Receipt showing correction (1 pg)</u> <small>(Identify type of correspondence)</small></p> <p>is being facsimile transmitted to the United States Patent and Trademark Office (Fax. No. <u>571-273-8300</u>)</p> <p>on <u>April 3, 2007</u> <small>(Date)</small></p> <p style="text-align: center;">Debra L. Burns <small>(Typed or Printed Name of Person Signing Certificate)</small>  <small>(Signature)</small></p> <p style="text-align: center;">Note: Each paper must have its own certificate of mailing.</p>			

P18/REV02

**RECEIVED  
CENTRAL FAX CENTER****APR 03 2007****PATENT APPLICATION*****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE***

*Group*  
*Art Unit:* 1742  
  
*Attorney*  
*Docket No.:* 136697-0026  
  
*Applicant:* Dongliang LIN et al.  
  
*Invention:* HIGH SILICON STEEL AND METHOD  
OF MAKING THE SAME  
  
*Serial No:* 10/580,664  
  
*Filing Date:* May 26, 2006  
  
*Examiner:* Unknown

**Certificate Under 37 CFR 1.8(b)**

I hereby certify that this correspondence is being  
transmitted to the United States Patent and Trademark  
Office via facsimile on the date indicated below.

on April 3, 2007

  
Debra L. Burns

**REQUEST FOR CORRECTED FILING RECEIPT**

Commissioner For Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Enclosed is a copy of the Filing Receipt received in connection with the above-identified application.

As indicated in the hand-written correction on the enclosed copy of the Filing Receipt the International application number is incorrect. The International application number should be as follows:


PCT/CN04/001317

The correct information for the International application number can be found on the PCT/USA National Declaration and Power of Attorney For U. S. Patent Applications in the

United States Patent and Trademark Office Under 35 U. S. C. Section 3719 (c) (4) and  
Publication PCT WO2005/052206 A1, copies are attached.

The undersigned respectfully requests a corrected Filing showing the requested corrections  
for the above-identified application.

Respectfully submitted,

  
Michael S. Gzybowski  
Reg. No. 32,816

BUTZEL LONG  
350 South Main Street  
Suite 300  
Ann Arbor, Michigan 48104  
(734) 995-3110 995-3110

**RECEIVED  
CENTRAL FAX CENTER****APR 03 2007****UNITED STATES PATENT AND TRADEMARK OFFICE**

UNITED STATES DEPARTMENT OF COMMERCE  
 United States Patent and Trademark Office  
 Address: COMMISSIONER FOR PATENTS  
 P.O. Box 1450  
 Alexandria, Virginia 22313-1450  
 www.uspto.gov

APPL NO.	FILING OR 371(g) DATE	ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLMS	IND CLMS
10/580,664	05/26/2006	1742	900	133697-0026	11	1

35684  
 BUTZEL LONG  
 350 SOUTH MAIN STREET  
 SUITE 300  
 ANN ARBOR, MI 48104

**RECEIVED  
BUTZEL LONG****MAR 14 2007**

CONFIRMATION NO. 5344

**FILING RECEIPT**

\*OC000000022712461\*

RESPONSE DUE:

Date Mailed: 03/09/2007

*N/A*  
 DOCKET 1 *11/15* DOCKET 2 *11/15*

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please mail to the Commissioner for Patents P.O. Box 1450 Alexandria Va 22313-1450. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

**Applicant(s)**

Dongliang Lin, Shanghai, CHINA;  
 Hui Lin, Shanghai, CHINA;

**Power of Attorney:** The patent practitioners associated with Customer Number 35684.

**Domestic Priority data as claimed by applicant**

This application is a 371 of PCT/CN04/01317 11/19/2004

**Foreign Applications**

CHINA 200310108897.1 11/27/2003

If Required, Foreign Filing License Granted: 03/01/2007

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US10/580,664**

Projected Publication Date: 06/07/2007

Non-Publication Request: No

Early Publication Request: No

ATTORNEY'S POCKET NO. \_\_\_\_\_

**PCT/USA NATIONAL DECLARATION AND POWER OF ATTORNEY FOR U.S. PATENT  
APPLICATIONS IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
UNDER 35 U.S.C. SECTION 3719(c)(4)**

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name:

I verily believe I am the original, first and sole inventor (if only one name is listed below) or a joint inventor (if plural inventors are named below) of the invention described and claimed in international application number. PCT/CN2004/001317 entitled:

**HIGH-SILICON STEEL AND METHOD OF MAKING THE SAME**

and as amended on \_\_\_\_\_ (if any), which I have reviewed, and I understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above and for which I solicit a patent; that I do not know and do not believe that this invention was ever known or used in the United States of America before my or our invention or discovery thereof, or patented or described in any printed publication in any country before my or our invention or discovery thereof, or more than one year prior to my international application; that this invention was not in public use or on sale in the United States of America for more than one year prior to my international application; that this invention has not been patented or made the subject of an inventor's certificate issued before the date of my international application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve months before my international application; that I acknowledge my duty to disclose information of which I am aware which is material to patentability of this application; and that prior to filing said International application, applications for patent or inventor's certificate on this invention of discovery which have been filed by me or my legal representatives or assigns in any country foreign to the United States of America are as follows:

(a) none filed more than 12 months prior to said International application, unless named below:

(b) earliest filed less than 12 months prior to said international application (the priority of which is hereby claimed under 35 U.S.C. Section 365):

Application Number CN 200310108897.1 filed November 27, 2003

I hereby claim the benefit under Title 35, United States Code, §120, of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information material to patentability as defined in Title 37, Code of Federal Regulations, §1.56, which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

\_\_\_\_\_  
(Application Serial No.)

\_\_\_\_\_  
(Filing Date)

\_\_\_\_\_  
(Status) (patented, pending, abandoned)

\_\_\_\_\_  
(Application Serial No.)

\_\_\_\_\_  
(Filing Date)

\_\_\_\_\_  
(Status) (patented, pending, abandoned)

ATTORNEY'S DOCKET NO. \_\_\_\_\_

As a named inventor, I hereby appoint Michael S. Gzybowski, Reg. No. 32,816 of Butzel Long, P.C., as attorney(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith.

**CUSTOMER NUMBER: 35684**

SEND CORRESPONDENCE TO:

DIRECT TELEPHONE CALLS TO:

Michael S. Gzybowski  
Butzel Long, P.C.  
350 S. Main St., Suite. 300  
Ann Arbor, MI 48104

Michael S. Gzybowski  
Telephone: (734) 995-3110  
Facsimile: (737) 995-1777

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

The undersigned hereby authorizes the U.S. attorney or agent named herein to accept and follow instructions from \_\_\_\_\_ as to any action to be taken in the Patent and Trademark Office regarding this application without direct communication between the U.S. attorney or agent and the undersigned. In the event of a change in the persons from who instructions may be taken, the U.S. attorney or agent named herein will be so notified by the undersigned.

Full name of sole or first inventor: LIN, DongliangResidence: SHANGHAI, P.R. CHINACitizenship: P.R. CHINAPost Office Address: Suite 6, No. 1, Lane 1950, Middle Huaihai Rd., Shanghai 200052, P.R. CHINAInventor's Signature: Dongliang Lin Date: May 18, 2006Full name of second joint inventor: LIN, HuiResidence: SHANGHAI, P.R. CHINACitizenship: P.R. CHINAPost Office Address: Suite 6, No. 1, Lane 1950, Middle Huaihai Rd., Shanghai 200052, P.R. CHINAInventor's Signature: Hui Lin Date: May 18, 2006

## (12) 按照专利合作条约所公布的国际申请

(19) 世界知识产权组织  
国际局

(43) 国际公布日:

2005年6月9日(09.06.2005)

(10) 国际公布号:

WO 2005/052206 A1

PCT

(51) 国际分类号: C22C 38/02, C21D 1/00

(21) 国际申请号: PCT/CN2004/001317

(22) 国际申请日: 2004年11月19日(19.11.2004)

(25) 申请语言: 中文

(26) 公布语言: 中文

(30) 优先权: 200310108897.1 2003年11月27日(27.11.2003) CN

(71)(72) 发明人/申请人: 林栋梁(LIN, Dongliang) [CN/CN];  
林晖(LIN, Hui) [CN/CN]; 中国上海市淮海中路1950  
弄1号6室, Shanghai 200052 (CN).(74) 代理人: 上海隆天新高专利商标代理有限公司  
(LUNGTIN SINKO IP ATTORNEYS, LTD.); 中国  
上海市复兴中路1号申能国际大厦1401-1402室,  
Shanghai 200021 (CN).(81) 指定国(除另有指明, 要求每一种可提供的国家保护):  
AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW,  
BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM,  
DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GR,  
HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,  
MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL,  
PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,  
ZM, ZW(84) 指定国(除另有指明, 要求每一种可提供的地区保护):  
ARIPO(BW, GH, GM, KE, LS, MW, MZ, NA, SD,  
SL, SZ, TZ, UG, ZM, ZW), 欧亚专利(AM, AZ, BY,  
KG, KZ, MD, RU, TJ, TM), 欧洲专利(AT, BE, BG,  
CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,  
IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR),  
OAPI(BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,  
ML, MR, NE, SN, TD, TG)

根据细则4.17的声明:

— 关于申请人在国际申请日有权申请并被授予专利(细则  
4.17(ii))对除英国以外的所有指定国  
— 发明人资格(细则4.17(iv))仅对美国

本国际公布:

— 包括国际检索报告。

所引用双字母代码和其它缩写符号, 请参看刊登在每期  
PCT公报期刊起始的“代码及缩写符号简要说明”。

(54) Title: HIGH SILICON STEEL AND ITS MANUFACTURE PROCESS

(54) 发明名称: 高硅钢及其制备方法

(57) Abstract: The present invention concerns a high silicon steel and its manufacture process, which relates to the field of material making. The high silicon steel comprises (by wt.) 5-10% silicon, 0.007-1% carbon; less than 0.01% impurities consisting of one or more of Mn, P, S, Cr and Ni; and balance Fe. The process comprises the steps of adding 0.01-1% carbon to a high silicon steel comprising 5%-10% silicon, subjecting the steel to a homogenizing heat treatment in a protective atmosphere i.e. a solutionizing treatment between 1200°C and the temperature below the melting point of the steel, and constant-temp annealing the steel to eliminate most of the second phase in the silicon steel. The tensile ductility and workability of the silicon steel could be remarkably improved, as a result, it makes mass production of high silicon sheet with various thickness possible. The present invention is useful for producing high silicon steel sheet and controlling its microstructure, also it could adjust final carbon content to obtain a high silicon steel sheet with optimal soft magnetism characteristics. The carbon-containing high silicon steel sheet could be utilized as a high strength constructional material at room and moderate temperature in oxidizing and corrosive atmosphere.

(57) 摘要

一种高硅钢及其制备方法。属于材料制备领域。高硅钢包含的各个成分及其重量百分比为: 5-10%硅, 0.007-1%碳、杂质 Mn 和/或 P 和/或 S 和/或 Cr 和/或 Ni 含量小于 0.01%, 其余为铁。其制备方法是: 在 5%-10%含硅量的高硅钢中加入 0.01-1%碳, 并对高硅钢的样品进行均匀化热处理, 即从 1200°C 至低于钢熔点的固熔热处理, 保温退火消除高硅钢中大部分第二相, 均匀化退火在保护气氛中进行。本发明显著改善了硅钢拉伸塑性和加工性能, 从而令不同厚度高硅钢片的大规模生产成为可能, 不仅可用于生产高硅钢片和控制其显微组织, 且可调整最终碳含量, 得到高硅钢片的最佳软磁性能。含碳的高硅钢片可作为高强度结构材料, 在室温和中温下, 氧化和腐蚀气氛下使用。

WO 2005/052206 A1